

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claim 1 (Currently Amended): An electrophotographic photoreceptor comprising:
an electroconductive substrate;
a photosensitive layer located overlying the electroconductive substrate; and
optionally a protective layer located overlying the photosensitive layer,
wherein an outermost layer of the photoreceptor comprises a filler, a binder resin and
an ~~organic compound~~ unsaturated polycarboxylic acid compound having an acid value of
from 10 to 700 mgKOH/g.

Claim 2 (Original): The electrophotographic photoreceptor according to Claim 1,
wherein the photosensitive layer is the outermost layer.

Claims 3-5 (Canceled):

Claim 6 (Original): The electrophotographic photoreceptor according to Claim 3 ~~1~~,
wherein ~~the hydrophilic~~ a carboxylic group of said unsaturated polycarboxylic acid
compound is located at an end position of the unsaturated polycarboxylic acid compound a
~~molecule of the organic compound~~.

Claim 7 (Currently Amended): The electrophotographic photoreceptor according to
Claim 1, wherein the ~~organic compound~~ unsaturated polycarboxylic acid compound has a
number average molecular weight of from 300 to 30,000.

Claims 8 (Currently Amended): The electrophotographic photoreceptor according to Claim 1, satisfying the following relationship:

$$0.1 \leq (A \times B/C) \leq 20$$

wherein A represents a content of the organic compound in the outermost layer in units of grams, B represents the acid value of the ~~organic compound~~ unsaturated polycarboxylic acid compound in units of mgKOH/g, and C represents a content of the filler in the outermost layer in units of grams.

Claim 9 (Original): The electrophotographic photoreceptor according to Claim 1, wherein the filler is an inorganic filler.

Claim 10 (Original): The electrophotographic photoreceptor according to Claim 9, wherein the inorganic filler is a metal oxide.

Claim 11 (Original): The electrophotographic photoreceptor according to Claim 10, wherein the metal oxide has a resistivity not less than $10^{10} \Omega \cdot \text{cm}$.

Claim 12 (Original): The electrophotographic photoreceptor according to Claim 10, wherein the metal oxide has a pH not less than 5 at an isoelectric point of the metal oxide.

Claim 13 (Original): The electrophotographic photoreceptor according to Claim 9, wherein the inorganic filler has a surface that is treated with a surface treating agent.

Claim 14 (Original): The electrophotographic photoreceptor according to Claim 13, wherein the surface is a surface treated with a surface treating agent selected from the group consisting of titanate coupling agents and aluminum coupling agents.

Claim 15 (Original): The electrophotographic photoreceptor according to Claim 13, wherein a ratio (W_s/W_f) of a weight (W_s) of the surface treating agent to a weight (W_f) of the filler is from 0.02 to 0.30.

Claim 16 (Original): The electrophotographic photoreceptor according to Claim 1, wherein the filler has an average primary particle diameter of from $0.01\ \mu\text{m}$ to $0.9\ \mu\text{m}$.

Claim 17 (Original): The electrophotographic photoreceptor according to Claim 1, wherein the filler is included in the outermost layer in an amount of from 0.1 % to 50 % by weight based on total solid components of the outermost layer.

Claim 18 (Original): The electrophotographic photoreceptor according to Claim 1, wherein the binder resin comprises a resin selected from the group consisting of polycarbonate resins and polyarylate resins.

Claim 19 (Original): The electrophotographic photoreceptor according to Claim 1, wherein the binder resin comprises a charge transport polymer.

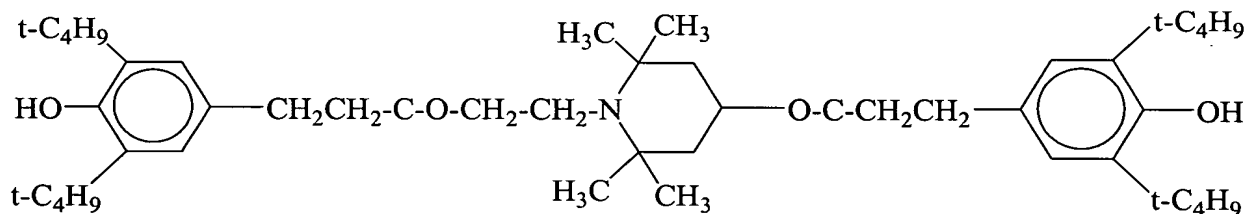
Claim 20 (Original): The electrophotographic photoreceptor according to Claim 1, wherein the outermost layer further comprises a charge transport material.

Claim 21 (Original): The electrophotographic photoreceptor according to Claim 20, wherein the photosensitive layer comprises a charge transport material, and wherein the charge transport material in the outermost layer has an ionization potential not greater than an ionization potential of the charge transport material in the photosensitive layer.

Claim 22 (Original): The electrophotographic photoreceptor according to Claim 1, wherein the outermost layer further comprises an antioxidant.

Claim 23 (Original): The electrophotographic photoreceptor according to Claim 22, wherein the antioxidant comprises both a hindered phenol structure and a hindered amine structure.

Claim 24 (Original): The electrophotographic photoreceptor according to Claim 23, wherein the antioxidant comprises a compound having the following formula:



Claim 25 (Original): The electrophotographic photoreceptor according to Claim 22, wherein the antioxidant is included in the outermost layer in an amount of from 0.1 to 20 % by weight based on the filler in the outermost layer, and wherein the amount is greater than an amount of the organic compound in the outermost layer.

Claims 26 (Original): A coating liquid for an outermost layer of an electrophotographic photoreceptor, comprising:

a filler;

an organic compound having an acid value of from 10 to 700 mgKOH/g;

a binder resin; and

plural organic solvents.

Claim 27 (Original): The coating liquid according to Claim 26, prepared by mixing the filler, the organic compound, the binder resin and plural organic solvents using a ball mill containing alumina balls.

Claim 28 (Original): A method for preparing an electrophotographic photoreceptor, comprising:

mixing a filler, an organic compound having an acid value of from 10 to 700 mg/KOH/g, and a binder resin to prepare an outermost layer coating liquid;

forming a photosensitive layer overlying an electroconductive substrate; and

coating the outermost layer coating liquid overlying the photosensitive layer by a spray coating method and drying the coated liquid to form an outermost layer overlying the photosensitive layer.

Claim 29 (Original): The method according to Claim 28, wherein the outermost layer coating step is performed at least twice.

Claim 30 (Original): An image forming method comprising:

charging a photoreceptor;

irradiating the photoreceptor with light to form an electrostatic latent image on a surface of the photoreceptor;

developing the electrostatic latent image with a toner to form a toner image on the photoreceptor;

transferring the toner image onto a receiving material optionally via an intermediate transfer medium,

wherein the photoreceptor comprises:

an electroconductive substrate;

a photosensitive layer located overlying the electronconductive substrate; and

optionally a protective layer located overlying the photosensitive layer,

wherein an outermost layer of the photoreceptor comprises a filler, a binder resin and an organic compound having an acid value of from 10 to 700 mgKOH/g.

Claim 31 (Original): The image forming method according to Claim 30, wherein the photosensitive layer is the outermost layer.

Claim 32 (Currently Amended): The image forming method according to Claim 30, wherein the irradiating step includes digitally irradiating light using at least one member selected from the group consisting of a laser diode and a light emitting diode.

Claim 33 (Original): An image forming apparatus comprising:

a photoreceptor;

a charger configured to charge the photoreceptor;

an image irradiator configured to irradiate the photoreceptor with light to form an electrostatic latent image on the photoreceptor;

an image developer configured to develop the electrostatic latent image with a toner to form a toner image on the photoreceptor; and

an image transferer configured to transfer the toner image onto a receiving material optionally via an intermediate transfer medium,

wherein the photoreceptor comprises:

an electroconductive substrate;

a photosensitive layer located overlying the electroconductive substrate; and

optionally a protective layer located overlying the photosensitive layer,

wherein an outermost layer of the photoreceptor comprises a filler, a binder resin and an organic compound having an acid value of from 10 to 700 mgKOH/g.

Claim 34 (Original): The image forming apparatus according to Claim 33, wherein the photosensitive layer is the outermost layer.

Claim 35 (Original): The image forming apparatus according to Claim 33, further comprising one of a laser diode and a light emitting diode configured to emit light used by the image irradiator to digitally irradiate the photoreceptor.

Claim 36 (Original): The image forming apparatus according to Claim 33, wherein the charger is a charging roller.

Claim 37 (Original): The image forming apparatus according to Claim 36, wherein the charging roller is configured to charge the photoreceptor while close to but not touching an image forming area of the surface of the photoreceptor.

Claim 38 (Original): The image forming apparatus according to Claim 36, wherein the charger is configured to charge the photoreceptor by applying a DC voltage overlapped with an AC voltage to the surface of the photoreceptor.

Claim 39 (Original): The image forming apparatus according to Claim 33, further comprising:

a lubricant applicator configured to apply a lubricant to the surface of the photoreceptor.

Claim 40 (Original): The image forming apparatus according to Claim 39, wherein the lubricant comprises at least one of zinc stearate and fluorine-containing compounds.

Claim 41 (Original): The image forming apparatus according to Claim 33, wherein the toner comprises a lubricant.

Claim 42 (Original): The image forming apparatus according to Claim 41, wherein the lubricant comprises at least one of zinc stearate and fluorine-containing compounds.

Claim 43 (Original): The image forming apparatus according to Claim 33, including the intermediate transfer medium, four sets of the photoreceptor, and four sets of the image developer, wherein each of the four sets of image developers includes a cyan toner, a magenta toner, a yellow toner and a black toner to form a cyan toner image, a magenta toner image, a yellow toner image and a black toner image on the respective photoreceptor in parallel, wherein the cyan, magenta, yellow and black toner images are transferred on the

intermediate transfer medium to form a full color image, and wherein the full color toner image is transferred on the receiving material.

Claim 44 (Original): A process cartridge comprising:

a photoreceptor; and

a housing configured to contain the photoreceptor therein,

wherein the photoreceptor comprises:

an electroconductive substrate;

a photosensitive layer located overlying the electroconductive substrate; and

optionally a protective layer located overlying the photosensitive layer,

wherein an outermost layer of the photoreceptor comprises a filler, a binder resin and an organic compound having an acid value of from 10 to 700 mgKOH/g.

Claim 45 (Original): The process cartridge according to Claim 44, wherein the photosensitive layer is the outermost layer.

Claim 46 (Original): The process cartridge according to Claim 44, further comprising at least one of:

a charger configured to charge the photoreceptor;

an image irradiator configured to irradiate the photoreceptor with light to form an electrostatic latent image on the photoreceptor;

an image developer configured to develop the electrostatic latent image with a toner to form a toner image on the photoreceptor;

an image transferer configured to transfer the toner image onto a receiving material optionally via an intermediate transfer medium;

a cleaner configured to clean a surface of the photoreceptor; and
a lubricant applicator configured to apply a lubricant to the surface of the
photoreceptor.